

CLAIMS

1. A rotary damper comprising an operating chamber through which fluid can pass, a valve body which forwardly moves from a natural state position when the valve body receives fluid pressure and which can forwardly moves in the operating chamber, and a first spring capable of giving a resistance to the forward movement of the valve body, wherein a flow rate of fluid which passes through the operating chamber can be reduced by a flow path formed between a peripheral wall of the operating chamber and the valve body, the rotary damper further comprises a valve mechanism capable of increasing a reducing amount of the fluid as a moving distance of the valve body which forwardly moves in the operating chamber is increased.

2. The rotary damper according to claim 1, wherein the valve mechanism can increase the reducing amount by increasing a length of the flow path as the moving distance of the valve body which forwardly moves in the operating chamber is increased.

3. The rotary damper according to claim 1, wherein the valve mechanism can increase the reducing amount by reducing an area of the flow path as the moving distance of the valve body which forwardly moves in the operating chamber is increased.

4. The rotary damper according to claim 1, wherein when fluid pressure which forwardly moves the valve body is less than a predetermined value, the valve mechanism can increase the reducing amount by reducing an area of the flow path as the moving distance of the valve body which forwardly moves in the operating chamber is increased, and when the fluid pressure which forwardly moves the valve body is equal to or higher than the predetermined value, the valve mechanism can increase the reducing amount by increasing a length of the flow path as the moving distance of the valve body which forwardly moves in the operating chamber is increased.

5. The rotary damper according to claim 1, wherein if the valve body receives the fluid pressure, the valve body can retreat from the natural state position, the valve mechanism includes a second spring capable of returning the valve body which retreated from the natural state position to the natural state position.

6. The rotary damper according to claim 1, wherein the valve mechanism is provided on a shaft around which a pushing member which pushes the fluid by rotational motion or a partitioning member is provided, the partitioning member partitions a space into which fluid is charged together with the pushing member.

7. The rotary damper according to claim 1, wherein the valve mechanism is provided on a pushing member which pushes the fluid by rotational motion or on a partitioning member which partitions a space into which fluid is charged together with the pushing member.

8. A product comprising a movable body and a rotary damper which controls motion of the movable body, wherein the rotary damper is that described in any one of claims 1 to 7.